What is claimed is:

1. Apparatus, for use in connection with a data read/write device, which can avoid instability during data track following, comprising:

a data recording disk having a plurality of tracks and having servo information, said servo information including a plurality of servo bursts having nominal sizes, wherein said plurality of servo bursts define null points;

a head positionable near a destination location, with respect to said tracks, by a head positioning device under control of a controller;

circuitry which is configured to:

obtain first information indicative of characteristics of said head positioning device and characteristics of said controller;

obtain second information indicative of repeatable runout for at least a portion of at least a first of said tracks; and,

calculate at least a first correction value using said first information and said second information by a process which includes calculating a value indicative of change of at least a first servo burst component size from a nominal burst component size.

2. Apparatus, as claimed in claim 1 further comprising using a position of at least one of said null points to calculate said first correction value.

3. Apparatus as claimed in claim 1 wherein said first correction value is equal to at least a first proportionality value multiplied by a value indicative of said change of at least a first servo burst component size from a nominal burst component size.

4. Apparatus, as claimed in claim 1:

wherein said servo bursts include four components;

wherein the combination of said controller and said actuator receives at least four component values, based on responses from reading said four components; and,

wherein said first correction value is based on at least two of said four component values.

5. Apparatus, as claimed in claim 1, wherein said circuitry is further configured to control said head positioning device using said first correction value.

6. Apparatus, as claimed in claim 1, wherein said circuitry is further configured to write a plurality of corrected servo bursts to said disk.

7. Apparatus as claimed in claim 1 wherein said first information comprises a transfer function of said controller.

8. Apparatus as claimed in claim 1 wherein said first information comprises a transfer function of said head positioning device.

9. Apparatus as claimed in claim 1 wherein said first correction value is calculated by a process which includes circularly convolving said second information with a function of said first information.

10. Apparatus as claimed in claim 1 wherein said first correction value is calculated by a process which includes calculating a value indicative of displacement of a head position at nominal null point positions.

11. Apparatus as claimed in claim 10 wherein said nominal null point positions are adjacent to one another.

12. Apparatus as claimed in claim 1, wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points, and wherein said proportionality value is based on a slope of a nominal burst response substantially at one of said null points.

13. Apparatus as claimed in claim 1 wherein said first correction value is determined as a function of a change of at least a first servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point.

14. Apparatus as claimed in claim 4:

wherein said circuitry is further configured to calculate at least a second correction value using said first information and said second information and control said head positioning device using both said first correction value and said second correction value;

wherein said servo information includes a plurality of servo bursts having nominal positions defining null points;

wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points;

wherein said first correction value is a function of at least a first servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point; and,

wherein said second correction value is a function of at least a second servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point.

15. Apparatus, as claimed in claim 14:

wherein said first correction value is arithmetically combined with first and second of said four component values and said second correction value is arithmetically combined with third and fourth of said four component values.

16. Apparatus, as claimed in claim 1 wherein correction values are obtained, separately for a plurality of tracks, and wherein information indicative of said correction values are stored on said disk.

17. Apparatus, as claimed in claim 1 wherein at least some tracks have a plurality of servo bursts thereon, and wherein correction values are obtained separately for at least some of said plurality of servo bursts, and wherein information indicative of said correction values are stored on said disk.

18. Apparatus, as claimed in claim 1, wherein said circuitry comprises a programmed microprocessor.

19. A method, for use in connection with a data read/write device, which can avoid instability during track following, the data read/write device having a data recording disk with servo information thereon defining a plurality of data tracks, wherein

said servo information includes a plurality of servo bursts having nominal sizes, said plurality of servo bursts defining null points, and a head positionable near a destination location, with respect to said data tracks, by a head positioning device under control of a controller comprising:

obtaining first information indicative of characteristics of said head positioning device and said controller;

obtaining second information indicative of repeatable runout for at least a portion of at least a first of said tracks; and,

calculating at least a first correction value as a function of a change of at least a first servo burst size from a nominal burst component size and of a distance between a destination location and a nominal null point.

20. A method, as claimed in claim 19, further comprising:

controlling said head positioning device using said first correction value.

21. A method, as claimed in claim 19, further comprising:

writing a plurality of corrected servo bursts to said disk.

22. A method as claimed in claim 19, wherein said first information comprises a transfer function of said controller.

23. A method as claimed in claim 19, wherein said first information comprises a transfer function of said head-positioning device.

24. A method as claimed in claim 19, further comprising:

calculating said first correction value by a process which includes circularly convolving said second information with a function of said first information.

25. A method as claimed in claim 19, wherein said first information comprises a first transfer function of said controller and a second transfer function of said head positioning device and further comprising:

calculating said first correction value by circularly convolving a function of said second information with the Inverse Discrete Fourier Transform of the sum of one and a product of said first and second transfer functions.

26. A method as claimed in claim 19, further comprising:

calculating said first correction value by a process which includes calculating a value indicative of displacement of a head position at nominal null point positions.

27. A method as claimed in claim 19, further comprising:

providing said first correction value equal to a proportionality constant times a

value indicative of said change of at least a first servo burst component size from a nominal burst component size.

28. A method as claimed in claim 27 wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points, and further comprising:

providing said proportionality constant based on a slope of a nominal burst response substantially at one of said null points.

29. A method as claimed in claim 19:

wherein said circuitry is further configured to calculate at least a second correction value using said first information and said second information and control said head positioning device using both said first correction value and said second correction value;

wherein said servo information includes a plurality of servo bursts having nominal positions defining null points;

wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points; and further comprising:

providing said second correction value as a function of at least a second servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point.

30. A method, as claimed in claim 29:

wherein said servo bursts include four components;

wherein the combination of said controller and said actuator receives at least four values, based on responses from reading said four components; and further comprising:

arithmetically combining said first correction values with first and second of said four values; and,

arithmetically combining said second correction values with third and fourth of said four values.

31. A method, as claimed in claim 19, further comprising:

obtaining said correction values separately for each of a plurality of tracks; and

storing information indicative of said correction values on said disk.

32. A method, as claimed in claim 19, wherein at least some tracks have a plurality of servo bursts thereon, and further comprising:

obtaining correction values separately for at least some of said plurality of servo bursts; and,

storing information indicative of said correction values on said disk.

33. Apparatus, for use in connection with a data read/write device having a data recording disk with a plurality of data tracks and servo information thereon defining a plurality of null points and a head positionable near a destination location, with respect to said data tracks, by a head positioning device under control of a controller comprising:

means for obtaining first information indicative of characteristics of said head positioning device and said controller;

means for obtaining second information indicative of repeatable runout for at least a portion of at least a first of said tracks;

means for calculating at least a first correction value using a position of at least one of said null points to calculate said first correction value;

means for controlling said head positioning device using said first correction value to provide for stability of head positioning, even when tracks of said disk are noncoherent.

34. Apparatus, as claimed in claim 33, further comprising:

means for writing a plurality of corrected servo bursts to said disk.

35. Apparatus as claimed in claim 33, wherein said first information comprises a first transfer function of said controller and a second transfer function of said head positioning device and further comprising:

means for calculating said first correction value by circularly convolving a function of said second information with an Inverse Discrete Fourier Transform of the sum of one and a product of said first and second transfer functions.

36. Apparatus as claimed in claim 33, further comprising:

means for calculating said first correction value by a process which includes calculating a value indicative of displacement of a head position at nominal null point positions.

37. Apparatus as claimed in claim 33, wherein said servo information includes a plurality of servo bursts having nominal sizes, said plurality of servo bursts defining null points, and further comprising:

means for calculating said first correction value by a process which includes calculating a value indicative of change of at least a first servo burst component size from a nominal burst component size.

38. Apparatus as claimed in claim 33, wherein said servo information includes a plurality of servo bursts having nominal sizes, said plurality of servo bursts defining null points, and further comprising:

means for providing said first correction value equal to a proportionality constant

times a value indicative of change of at least a first servo burst component size from a nominal burst component size.

39. Apparatus as claimed in claim 38 wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points, and further comprising:

means for providing said proportionality constant based on a slope of a nominal burst response substantially at one of said null points.

40. Apparatus as claimed in claim 33, wherein said servo information includes a plurality of servo bursts having nominal sizes, said plurality of servo bursts defining null points, and further comprising:

means for determining said first corrective value as a function of a change of at least a first servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point.

41. Apparatus as claimed in claim 33:

wherein said circuitry is further configured to calculate at least a second correction value using said first information and said second information and control said head positioning device using both said first correction value and said second correction value;

wherein said servo information includes a plurality of servo bursts having a nominal size, said plurality of servo bursts defining null points;

wherein reading said servo bursts produces a response curve defining slopes at various points, including said null points; and further comprising:

means for providing said first correction value as a function of at least a first servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point; and,

means for providing said second correction value is a function of at least a second servo burst component size from a nominal burst component size and of a distance between a destination location and a nominal null point.

42. Apparatus, as claimed in claim 41:

wherein said servo bursts include four components;

wherein the combination of said controller and said actuator receives at least four values, based on responses from reading said four components; and further comprising:

means for arithmetically combining said first correction values with first and second of said four values; and,

means for arithmetically combining said second correction values with third and fourth of said four values.

43. Apparatus, as claimed in claim 33, further comprising:

means for obtaining said correction values are separately for each of a plurality of tracks; and,

means for storing information indicative of said correction values on said disk.

44. Apparatus, as claimed in claim 33, wherein at least some tracks have a plurality of servo bursts thereon, and further comprising:

means for obtaining correction values are separately for at least some of said plurality of servo bursts; and,

means for storing information indicative of said correction values on said disk.